

CHARACTERIZATION OF INTERLAYER SHEAR RESISTANCE WITH THE USE OF GEOGRID

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ABSTRACT

The asphalt pavement performance of multilayered systems depends strongly on interlayer bonding. To guarantee good bonding, tack coats are usually applied at various interfaces during pavement construction or overlay. This paper describes the laboratory measurement of shear interface properties between asphalt layers using the Leutner test. For this study, the two asphalt layers were comprised of a SAMI fine aggregate asphalt mixture (FAAM), and a stone matrix asphalt (SMA), selected as the solution for a rigid pavement rehabilitation. The tests were carried out on 150 mm and 100 mm diameter samples, with and without the use of geogrid as an interlayer. The displacement rate was 50 mm/min, and the test was carried out at 25°C. The tests indicated different results for the specimens with and without geogrid as an interlayer. In all the cases, a smaller adherence was observed when the geogrid was present in the interface, what can be attributed to the area occupied by the fibers presented in the geogrid mesh. The highest interface shear strength was obtained at residual tack coat rates of 0,30l/m² for the samples without geogrid, and 0,40l/m² for the samples with geogrid.

KEY WORDS: Direct shear test, multilayered systems, geogrid, tack coat.